

Guns, Germs, and Steel: The Fate of Human Societies

By Jared Diamond

Review by Pete Sweeney

Guns, Germs, and Steel (henceforth GG&S) is, at first glance, a work long awaited. Given the spate of popularly expressed cynicism about the UN's Millennium Development Goals in Africa and elsewhere, it seems that at least some apologists for the "emerging economies" have been put on the defensive of late. Most importantly, we have officially entered the period of popular post-colonial debate. The question today for anyone who has ever met anyone extraordinary who was not "white" (whatever that indicates these days, since Western television started broadcasting images of pasty white Yugoslavs slaughtering each other like cattle), the question remains: why is Zimbabwe like Zimbabwe after colonialism, and China like China, and Bolivia like Bolivia? Colonialism is not only morally wrong, it is moot. Today the very same people who criticize the methods and goals of colonialism are forced to confront the logic a global superpower who has neither identical goals nor employs remotely similar methods. To date, no one has done particularly well at this if current policy is indicative. Money will be spent, it is sure. Reputations will be made and reputations will be crushed and whether any of it was deserved will take a century to sort. Because there is no unified, *popularized* theory that I am aware of for understanding divergent development that has succeeded in grasping the popular mind the way, for example, the Darwinian paradigm has. Perhaps someone somewhere has discovered the truth, but I, as a layman, cannot access it, which is in of itself a failure.

Jared Diamond's asserts in his introduction that he can provide a definitive, comprehensive theory of divergent social and technological development across continents and ethnic groups. He has a label of Pulitzer Prize on the jacket and a blurb from Bill Gates on the back, surely the secular pope if there is such a thing. One hopes, as always, that this will be the book, at last, that manages to combine scientific verifiability with the persuasive and imaginative power of a fable. Something people can explain to each other in a couple of drinks, like, "love thy neighbor as thyself is smart policy." Under implicit and explicit attack throughout the work are theories that explain

disparate global development in terms of ethnic essentialism, “Social Darwinism,”¹ or the relatively recent cluster of studies claiming that the IQ factor (popularly known as “g”) has been isolated, is heritable, and varies among racial types. “The objection to such racist explanations,” he writes, “is not just that they are loathsome, but also that they are wrong.” The moral reader concurs with the former and eagerly awaits demonstration of the latter. Nevertheless, while Diamond does provide much useful ammunition for this debate, and while his work is at very least a highly stimulating tonic, he fails to *conclusively* answer the question to my satisfaction and certainly not to the satisfaction of those who believe that group differences, be they genetic or otherwise, can and do play a role in the development of human societies.

GG&S purports to cut through historical subjectivity and present a more scientific analysis of the reason why some regions, peoples, and cultures developed more quickly than others, and why European powers in particular were able to dominate the global political economy so quickly and lopsidedly. According to his own introduction, Diamond is well-qualified to tackle the task of consolidating the wide variety of data types necessary to explain the history of human development. He studied linguistics, history and writing prior to embarking on a PhD in physiology. He titles himself an evolutionary biologist and the logic of natural selection turns up regularly in his work, sometimes in less-than-rigorous usages (for example, he claims that New Guineans are actually more intelligent than Europeans because they have to cope with a more challenging physical environment while Americans watch “seven hours of TV per day”.) Since his argument is largely that geography and biology form the entirety of developmental destiny, the book consists largely of a fascinating survey of paleobotany, paleobiology, and geography’s influence on both, with linguistics, anthropology, and behavioral psychology thrown in for good measure.

Diamond ties environmental factors firmly to the developmental challenges human societies faced and the solutions they arrived at through a combination of fact, lucid logic, and common sense. The reader discovers certain facts fascinating mainly in their obviousness. Why has no new species been domesticated in modern history? Why domesticate actively poisonous almonds and ignore the plentiful and non-toxic acorn?

¹ Diamond does not, in fact, use the term Social Darwinism directly in GG&S but he does assail it elsewhere.

Diamond frequently uses examples from his region of specialization in Polynesia. The wide variety of geographical, botanical, and social environments present there constitute, in his view, a de facto control group for testing his theories. “Categories of cultural difference that exist in Polynesia,” he claims, “are essentially the same categories that emerged in the rest of the world.” However, he does not limit himself to a Polynesian template-based analysis. Diamond is deft at identifying commonalities between disparate civilizations separated by distance and time. His most effective arguments are generally harnessed to common-sense explanations, the most salient of which is his explanation of how and why any given group of hunter gatherers would abandon hunting and gathering for intensive agriculture and the developmental advantages it brings: specialization leading to innovation, population density leading to strength, and everything ultimately leading to military advantage. Most interesting is his assertion that hunting and gathering can actually be less labor intensive and more secure than farming in certain situations. He ascribes the agrarian decision to simple self-interest. Hunters and gatherers only abandoned their mode of life when it became unsustainable due to declines in wild animal stocks caused by the hunter-gatherer’s own successful population growth. This makes perfect sense and Diamond reinforces the argument with actual historical examples of groups that never actually made the decision to change their mode of living despite exposure to both the agrarian concept and the geographic capacity for agriculture, in particular the Australian Aborigines and certain indigenous groups in the North American west.

The most interesting and salient point Diamond makes is in his intimate description of relative paucity of domesticable plants and livestock available in different regions. He carefully details the advantages the Fertile Crescent enjoyed in terms of specific characteristics of the wheat and pulse species available to them, their nutritional content, their ease of storage, and the effect of the climate and the geography of the region. His theory that Eurasia was uniquely advantaged by its east-west axis, allowing various crops and domesticated species to spread laterally across the continent without needing to cross significant topological or climate barriers has the “elegant simplicity” that I understand scientists consider generally consistent with validity.

Indeed, regardless of the acceptance of his more general thesis about the irrelevance of human racial genetics and the virtues of indigenous peoples, Diamond has clearly made a

stimulating and important contribution to this layman's understanding of human development in areas not previously exposed to the popular market. I have not yet read such an engaging description of the difference between rice and bread wheat and their relative impact on human development. It is in this area that the book provides its greatest value, by fleshing out a widely under-analyzed series of factors requisite for the agricultural revolution in comprehensible prose and one is, as always, grateful to discover a scientist who can write well.

Professor Diamond is clearly not writing for an academic audience here; his work is short on citations and footnotes; he rarely cites other academic works directly nor does he make much use of paragraph-length quotations. This is both a strength and a weakness as one sacrifices the ability to fact-check some bold assertions he makes about the state of "racist" theories he rejects. For example, it unclear where he derived his figures about American TV-watching as they contradict other numbers cited elsewhere. It is difficult to imagine how Americans could simultaneously watch seven hours of TV day, eat, sleep and work full time as they tend to do; Al Gore recently cited a figure of four hours a day in a recent speech. Likewise, while the book is clearly a frontal assault on the conclusions of *The Bell Curve*, Diamond does not mention the book or its authors by name except in his reading notes at the back, and his sole description is to call it "notorious," which is neither informative nor useful. Evolutionary theory has been "notorious" since its inception; controversy is hardly indicative of falsehood and it is unfair of Diamond to use the term as he does in my view.

Diamond does, however, provide numerous enlightening and frequently entertaining quotations from various persons personally involved in historical events. The description of Pizarro's capture of Atahualpa at Cajamarca is a riveting if brief description of European duplicity. Those who subscribe to moral theories of anti-colonialism will find much grist in Diamond's descriptions of colonial ruthlessness. However, Diamond also describes similar behavior among the tribes in New Guinea. He clearly believes that humans are everywhere more or less the same, and therefore he describes the callous Maori invasion and enslavement of the peaceful Moriori tribe in a similar (not identical) tone to the one he uses for Pizarro.

But a central weakness to Diamond's arguments is his contradictory approaches to the position he is attacking. His very target is vague. If he is attacking the theories of racist

whackos living in the hills and dreaming of white supremacy, he has chosen a target beneath his dignity. Nor is an ethnic essentialist or fundamentalist of any given religion likely to read or be convinced by academic or factual arguments presented by an evolutionary biologist.

In fact, Diamond largely ignores religion in the work except to savage Judeo-Christian justifications of conquest from time to time. “Religion: conquest justified by” rates eleven distinct index citations. “Kleptocracies supported by,” merits two. “Technological innovation and,” merits one. Elsewhere it appears that Diamond accedes the position of certain modern Christians and is willing to clump European civilization, colonialism, and Judeo-Christianity together. There is little mention of Buddhist evangelism, or the effects of Shintoism on Japanese isolationism, or the religious/cultural roots of cannibalism and head hunting. Diamond’s quotation from the Maori brutal conquest of the Moriori is illustrative: “Some ran away from us, these we killed, and others we killed—but what of that? It was in accordance with our custom.” And that is the last we hear about the Maori custom of killing people and enslaving those weaker than they. Granted the original publication date of the book predates September 11th so at the time it is understandable, perhaps, that he pay less shrift to religion, but his 2003 afterword also largely dodges the issue.

On the other hand, if Diamond is attacking the various data-driven studies and scientific research on human genetics and its connection to intelligence, he does his readers a disservice by treating the debate so cursorily. For example, he briefly assaults unnamed “psychologists” advancing ethnic theories of cognitive difference. “Sound evidence for the existence of human differences in intelligence that parallel human differences in technology is lacking,” he says. What is the reader to make of articles and criticism that assert the exact opposite? Diamond appears to believe the reader should simply ignore them. Diamond asserts that IQ tests largely measure cultural learning without explaining what part of cultural learning would describe the differences in mathematical performance, something that would be quite useful to the layman defending Diamond’s conclusions to a bigot (or a moral person convinced by contradictory scientific data) over cocktails. His statements suggest on the one hand that the question is still very much open to debate, but on the other Diamond proceeds to behave as if the absence of evidence he considers “sound” is evidence of the truth of the opposite hypothesis. Thus

from the introduction of the book, his argument rests on a rotten plank, that the debate over genetic differences between racial groups has been settled to the satisfaction of all serious scientific thinkers, and therefore he need not bother significantly with it. Thus much of the book consists of straw men that he sets up and knocks down as he catalogs the possible explanation for this or that society's development.

Unfortunately it is difficult and dangerous for a layman to tell, when considering this issue, which scientific positions are advanced for political reasons and which for scientific ones, and Diamond could be more helpful here than he is. Given the poisonous and emotional climate in which the discussion of race differences takes place, and the political landmines strewn throughout the most divisive and fundamental political issues of our time—by which I specifically mean the US education system's inability to serve as a reliable mechanism of class mobility—it does not take much education in the actual subject to suspect the objective capacity of almost everyone involved in the debate, the majority of whom are academics with personal concerns about tenure, funding, and personal popularity. Diamond does little to defend himself against those who may suspect his objectivity when it comes to considering the condition of New Guineans and other indigenous peoples. In fact, he does much to inflame suspicions by making so many unscientific and subjective observations about them.

Diamond expects his readers to accept his assertions that new Guineans are more intelligent than westerners based on his entirely subjective impressions of New Guineans he has met throughout his career, loosely supported by speculations about the different environmental factors New Guineans face which he believes would select for greatest intelligence. Implicit in his argument is the premise that people's IQ is, in fact, derived almost exclusively from current environmental factors, not heredity. And yet at the same time he argues that New Guineans environment has selected them for intelligence that would presumably be heritable, otherwise each generation of New Guineans would be as likely to die from stupid mistakes as the last. Yet he will not allow this kind of logic to apply to European genetic evolution through the long course of plagues, invasions, and economic competition which would presumably also select for intelligence and adaptability . . . as opposed to the recent invention of the television and the dulling effect he asserts it has on American intelligence in the last fifty years. If the New Guinean environment selects for intelligence, doesn't that imply that intelligence is, in fact,

heritable? What distinguishes Diamond's impassioned promotion of New Guinean intellectual superiority from the Social Darwinism he abhors?

In going after *The Bell Curve* and its subscribers sideways, he takes numerous disappointing swerves into anecdotalism. He rejects out of hand theories of genetic differences amongst groups, even though I have been given to understand that there are, indeed, genetic markers with which persons identify, and we already know that there are genetic diseases that specifically attack given racial groups. Being vulnerable to Tay Sachs or sickle-cell anemia is not a matter of self-identification or social construction. Certainly this does not mean that something with such a debatable definition as "intelligence" can be neatly shoved into the same category as a genetic disease or skin color, but nevertheless, Diamond gives his readers too little credit and potentially damages his own credibility. A two minute internet search turns up reams of articles by tenured academics and scientists debating about intelligence and heredity, and yet Diamond clearly believes the controversy is confined to dueling with bigoted dilettantes on the fringe and said as much in a recent interview with *Wired* magazine. "Resistance [to my conclusions]," he said, "has been mostly from the extremes of the political spectrum." Well, resistance to heliocentrism was quite popular for a time. So what?

Finally, one questions the utility of the book. *The Bell Curve* had a final chapter containing numerous policy recommendations, and naturally this constitutes the work's most vulnerable point. Unfortunately, despite GG&S's rallying introduction, Diamond fails to present any sort of concrete recommendations to assist the development of his beloved New Guinean tribespeople in the context of the current global political economy, where geography is no longer destiny no matter what role it once played. And once Diamond ventures into the realm of the political, his arguments become considerably weaker as he clearly does not consider the human political realm deserving of as much study or contemplation as pulse distribution or the domestication of the cheetah. In his world politics is conflated with intelligence and therefore all politics are the same everywhere. Therefore there is another weak plank in his theory, which is the difference in developmental pace across the Eurasian continent. Why did China abandon ocean-going ships and the military applications of gunpowder? To his credit, Diamond does admit and confront this weakness, but half-heartedly; he attempts to re-address the issue in a revised afterword but still gives the subject an unsatisfying shrift. In his

chapter *Necessity's Mother*, he essentially goes to a sort of civilizational Darwinism, explaining that China fell behind due to a lack of healthy competition from neighboring states or internal forces; like the Dodo, a lack of predators led to evolutionary stagnation.

Diamond accepts that the relative success or failure of given civilizations has at times rested on "accidents" such as political decisions or cultural tendencies to reject given tools, technologies, or methods. "The myriad factors affecting innovativeness make the historian's task paradoxically easier," he says, "by converting societal variation in innovativeness into an essentially random variable." Yet while he goes into great detail describing the roots of "accidents" like geography and paleobotany, he seems to feel calling political developments as important as the rejection and dismantling of a sea-going navy "random" is sufficient— as opposed to perhaps considering that this decision was the result of a long history of contributing factors, not an inexplicable spasm. He presents similar decisions by other cultures as phenomenae worth investigating out of curiosity's sake, but he implicitly discards the policy applicability of such analyses, which belies his desire to make history a more "scientific" endeavor. He notes that Chinese technological achievement varied throughout time for reasons he does not detail. All this sabotages his argument that technological superiority is the product of geography, available plants, and domesticable animals. Rather it seems that he would rather stick to factors that can be carbon dated, and sideline the rest, which may have the advantage of being more concrete yet remains incomplete. I am not sure that his view of "the historian's task" is acceptable here; does he believe that having a unified field theory of historical development is valuable even if it can neither explain nor predict modern development? I am prepared to accept defenses that history does not have to be relevant or useful, but Diamond purports to be a scientist treating history as a science; his introduction implies that a solution, a policy, an approach is within our grasp. But while his work does much to "exonerate" those societies who developed more slowly, like the New Guineans, of some historical intellectual fault, I am not sure this effectively serves to "exonerate" (if you believe poor people need exoneration, that is) groups that live within advanced societies and yet fail to adapt and succeed. What of North Africans in Europe or Uighurs in China? Nor is such exoneration worth much to those who remain in societies condemned to backwardness by political corruption, ecological damage, or other factors. Indeed, the product of Diamond's scientific study of development is largely emotional, it appears.

Disappointingly, instead of acknowledging his critics by name in his afterword, Diamond indulges in a bizarre bit of pop culture name dropping, mentioning that Bill Gates likes his work. Why should we be more impressed by Bill Gates' opinion than that of Diamond's academic critics? Because he's made a lot of money selling software? Diamond has also published another work called *Collapse: How Societies Succeed or Fail*, but according to the précis, he continues to focus on environmental roots for social development and the history and consequences of poor ecology management. Since environmental policy is subject to political concerns, one wonders again, what are we to do with his theories? Is this book more than a way to verbally joust with racists in casual conversation? Yes, we can accept that New Guineans may be smarter than Americans today. This then offers no explanation for the continuing development gap, given that the agricultural revolution is far behind us. Perhaps Diamond does, as Bill Gates' blurb on the back of the book says, "lay the foundation for understanding human history." But Diamond perhaps confuses the foundation with the rest of the house.

I propose that the least constructive aspect of the book is the false tautology it reinforces. Either societies developed the way they did because of essential differences in intelligence, one class of determinism, or because of geographic and biological factors, another class of determinism. Must we choose? Could one argue that a nation led by brilliant people can nevertheless be subjugated by illiterate goons? Were the Romans demonstrably smarter than the Greeks they conquered? Were the Visigoths more sophisticated than the Romans? What about the Mongols compared to the Han? One could accept that intelligence varies, on the average, between ethnic groups without accepting that it follows that a given human society's success is determined by the average IQs of its citizens. Finally, have we not learned from certain events in Germany the moral bankruptcy of scoring individuals (much less entire cultures) based on pseudo-scientific measures of their "utility" to society? So the New Guineans never got around to inventing the video camera. So what?

Attacking the moral repugnance of "loathsome" theories of ethnic essentialism and intelligence is worthwhile, but it is both an overloaded bandwagon at this point, and of arguable actual relevance to the process of imperial and colonial conquest. Do conquerors generally justify their conquest in moral terms, or intellectual ones? Yes, the Europeans did look down on their colonial subjects' intelligence/technology, but they also

looked down on their moral stature. The white man's burden was to bring "Christian" civilization to the backwards, but backwardness was not limited to technology in the Western colonial mind. Moral superiority was easily admitted as much when he complains of "Judeo-Christian" theories of dominance. Yet there are few rulers or conquerors I am familiar with who have tried to establish legitimacy through IQ tests. The Manchus argued they enjoyed the mandate of heaven due to their moral alignment with Confucian values. In this country we have been served by a long line of presidents claiming (often disingenuously, for which we can be half-grateful) to be ordinary schmucks. The current US military venture in the Middle East is not justified in terms of superior intelligence or technology but in terms of subjective moral signifiers like Freedom and Democracy and so on. Alas, no such argument is subject to counter-argument by scientists.